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AMSAT NEWS SERVICE
ANS-199

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: ans-editor(a)amsat.org

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see: https://mailman.amsat.org/postorius/lists/ans.amsat.org/

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ANS-199 AMSAT News Service Weekly Bulletins

To: All RADIO AMATEURS
From: Radio Amateur Satellite Corporation
712 H Street NE, Suite 1653
Washington, DC 20002

DATE 2021 July 18

AMSAT's 39th Annual Space Symposium and Annual General Meeting To Be Held October 29-31

The 39th AMSAT Space Symposium and Annual General Meeting will be held Friday through Sunday, October 29-31, 2021, at the Crowne Plaza AiRE in Bloomington, Minnesota. Crowne Plaza AiRE is located at 3 Appletree Square, Bloomington, MN 55245.

The Crowne Plaza AiRE is adjacent to the Minneapolis-St. Paul International Airport and only steps away from the METRO Blue Line’s American Blvd. stop.

Nearby shopping and tourist attractions include Mall of America, SEA LIFE at Mall of America, Nickelodeon Universe, and the Minnesota Zoo.

The Symposium includes presentations, exhibit space, and the AMSAT Annual General Meeting. The preliminary schedule is presented below.

The AMSAT Board of Directors Meeting will be held before the Symposium, October 28-29, at the same hotel.

You can make hotel reservations by calling the hotel directly at (952) 854-9000 or (877) 424-4188 (toll free) or online by visiting crowneplazaaire.com. The group name is Amateur Satellite Group.

Registration is available on AMSAT's Member Portal at https://launch.amsat.org/Events

Preliminary Schedule of Events (subject to change)
Thursday, October 28, 2021

0800 – 1200 AMSAT Board Meeting
1200 – 1300 AMSAT Board Lunch Break
1300 – 1700 AMSAT Board Meeting
1600 – 1900 Registration

Friday, October 29, 2021

0800 – 1900 Registration
0800 – 2100 Space Exhibit
0800 – 1200 AMSAT Board Meeting
1200 – 1300 AMSAT Board Lunch Break
1300 – 1700 AMSAT Space Symposium presentations
1700 – 1900 Dinner Break
1900 – 2130 AMSAT Reception, cash bar available

Saturday, October 30, 2021

0800 – 1600 Registration
0800 – 2100 Space Exhibit
0800 – 1200 AMSAT Space Symposium presentations
1200 – 1300 Lunch Break
1300 – 1500 AMSAT Space Symposium presentations
1500 – 1700 AMSAT Annual General Meeting
1800 – 1900 Attitude Adjustment (reception)
1800 – 2200 Cash Bar
1900 – 2200 Banquet

Sunday, October 31, 2021

0700 – 0900 AMSAT Ambassadors’ Breakfast

NOTE: All times are Central Daylight Time (CDT), UTC – 5 hours

[ANS thanks the 2021 AMSAT Symposium Committee for the above information]

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First call for papers for 2021 AMSAT Space Symposium

This is the first call for papers for the 39th AMSAT Space Symposium to be held on the weekend of October 29-31, 2021 at the Crowne Plaza AiRE hotel in Bloomington, Minnesota.

Proposals for symposium presentations are invited on any topic of interest to the amateur satellite community. We request a tentative title of your presentation as soon as possible, with final copy submitted by October 18 for inclusion in the symposium proceedings. Abstracts and papers should be sent to Dan Schultz, N8FGV at n8fgv(a)amsat.org

[ANS thanks Dan Schultz, N8FGV, Symposium Program Committee, for the above information]

2021 AMSAT Board of Directors Election Being Held

The nomination period for the 2021 Board of Directors Election ended on June 15, 2021. The following candidates have been duly nominated and their candidate statements can be found at link that follows:

Joseph Armbruster, KJ4JIO
Robert Bankston, KE4AL
Jerry Buxton, N0JY
Zach Metzinger, N0ZGO

In accordance with our Bylaws, AMSAT must hold an election, even though we have four nominations for four open Director positions. As such, we will host electronic voting on our Member Portal this year, at no cost to the organization. Voting is now open and will close on September 15, 2021.

When members click on the poll link, they will see their ballot (poll question). After choosing from the possible options, click the Submit button to cast your vote. Unlike many online polls, the results of all votes cast, up to the point of your vote, will not be displayed. AMSAT members can only vote once. If you click the poll link again after already voting, a vote submitted message will be displayed. As four seats on the Board of Directors are up for election this year, all four candidates will be seated on the Board when the voting period concludes on September 15, 2021.

To read candidate biographies see:
https://launch.amsat.org/2021-BoD-Election

AMSAT members may access their ballots at:
https://launch.amsat.org/Sys/Poll/25943

[ANS thanks Jeff Davis, KE9V, AMSAT Secretary, for the above information]

May/June 2021 Issue of The AMSAT Journal Now Available

The May/June 2021 issue of The AMSAT Journal is now available to members on AMSAT’s Member Portal.

The AMSAT Journal is a bi-monthly digital magazine for amateur radio in space enthusiasts, published by the Radio Amateur Satellite Corporation (AMSAT). Each issue is your source for hardware and software projects, technical tips, STEM initiatives, operational activities, and news from around the world.

AMSAT members may download their copy at: https://launch.amsat.org/

Inside the Current Issue
* Apogee View – Robert Bankston, KE4AL
* AMSAT Strategic Plan: A Roadmap for Success – Robert Bankston, KE4AL
* Educational Relations Update – Alan Johnston, KU2Y
* AMSAT Board of Directors Election – Jeff Davis, KE9V
* Debugging AO-109 (RadFxSat-2, Fox-1E) – Burns Fisher, WB1FJ and Mark Hammond, N8MH
* Working Portable with the Icom IC-9700 – Paul Philip, AC9O
* A Really Cheap Portable Satellite Mount – Keith Baker, KB1SF / VA3KSF
* Building a Tiny Satellite Ground Station – Mike Spohn, N1SPW

[ANS thanks The AMSAT Journal for the above information]

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[ANS thanks AMSAT-UK for the above information]

Youth on the Air Campers Enjoy Successful ISS Contact, Busy with Other Activities

The first Youth on the Air (YOTA) camp for young radio amateurs in the Americas is under way in West Chester, Ohio. Among other activities, the campers have been operating special event station W8Y from both the National Voice of America Museum of Broadcasting and from the camp hotel. The camp wraps up with an hour-long closing ceremony on Friday, July 16.

"Things are going really well," said Camp Director Neil Rapp, WB9VPG. The earlier launch of a balloon carrying a ham radio payload was successful, he said, and -- after pinpointing where the payload landed some 3 hours away -- the campers were able to retrieve the package, thanks to some understanding landowners. Rapp said the balloon reached approximately 100,000 feet.

Rapp said that campers have gotten along well from the first day, and problems in general have been few and minor.

Several of the approximately two dozen campers got to ask questions of ISS crew member Akihiko Hoshide, KE5DNI, during a Tuesday Amateur Radio on the International Space Station (ARISS) contact. Responding to a query posed by Graham, KO4FJK, Hoshide said the most interesting things he's seen from space included flying through an aurora and looking down at shooting stars from the ISS. He also said the ISS crew was able to view a partial lunar eclipse from space.

Another camper, Adam, KD9KIS, wanted to know how often the ISS crew members use the onboard ham station.

Hoshide said individual crew members may get on the radio every couple of weeks or so, or as the opportunity arises.

"This ARISS contact is intended to inspire these young hams to learn more about communication using amateur satellites and making ARISS radio contacts," ARISS said in announcing the contact date. ARISS team member John Sygo, ZS6JON, in South Africa, served as the telebridge relay station for the late-morning event, which was streamed live via YouTube.

Rapp said he's hoping this pilot camp venture will provide the information needed to replicate the camp over multiple locations for years to come. "We also hope this brings a more robust community of young hams into amateur radio," he added.

The long-anticipated summer camp for up to 30 hams, aged 15 through 25, was set for last June, but it had to be rescheduled until summer 2021 because of COVID-19 pandemic concerns. The camp for young hams in the Americas took its cue from the summer Youngsters on the Air camps held for the past few years in various IARU Region 1 countries.

The Region 2 camp is aimed at helping participants to take their ham radio experience to the next level by exposing them to a variety of activities and providing the opportunity to meet other young hams. Activities include kit building, antenna building, transmitter hunting and direction finding, operating with digital modes, and launching a high-altitude balloon. Amateur satellite operation is one of the workshops provided. Others include effective radio communication, local ham radio history, and using amateur radio during emergencies. The YouTube channel features daily highlight videos.

W8Y has been on the air as campers complete projects, between sessions, and during free time, although some late-evening slots have been on the schedule.

The camp's opening observance on Sunday featured keynote speaker Tim Duffy, K3LR, who told the campers, "Amateur radio is the best hobby in the world."

Campers also saw a video presentation by International Amateur Radio Union Region 1 Youth Working Group chair Philipp Springer, DK6SP.

ARRL and The Yasme Foundation donated project kits for the campers. XTronics provided temperature-controlled soldering stations. The brochure on the Youth on the Air website includes more details about the camp. -- Thanks to ARISS for some information

[ANS thanks ARISS and ARRL for the above information]

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Aerospace Exploration Agency) astronaut Akihiko Hoshide, KE5DNI, and ESA (European Space Agency) astronaut Thomas Pesquet, KG5FYG, will board the Crew Dragon spacecraft about 4:30 a.m. and undock from the forward port of the station's Harmony module at 6:45 a.m. The spacecraft will dock again at the station's space-facing port at 7:32 a.m.

The relocation will free up Harmony's forward port for the docking of Boeing's CST-100 Starliner spacecraft, scheduled for launch Friday, July 30, as part of NASA's Boeing Orbital Flight Test-2 (OFT-2) mission. The flight will test the end-to-end capabilities of Starliner from launch to docking, atmospheric re-entry, and a desert landing in the western United States. The uncrewed mission will provide valuable data about Boeing's crew transportation system, and help NASA certify Starliner and the United Launch Alliance Atlas V rocket for regular flights with astronauts to and from the space station.

This will be the second port relocation of a Crew Dragon spacecraft. NASA's SpaceX Crew-2 mission lifted off April 23 from NASA's Kennedy Space Center in Florida and docked to the space station April 24. Crew-2, targeted to return in early-to-mid November, is the second of six certified crew missions NASA and SpaceX have planned as a part of the agency's Commercial Crew Program.

[ANS thanks NASA for the above information]

NASA TV to Air Launch of Space Station Module, Departure of Another

NASA will provide live coverage of a new Russian science module's launch and automated docking to the International Space Station, and the undocking of another module that has been part of the orbital outpost for the past 20 years. Live coverage of all events will be available on NASA Television, the NASA app, and the agency's website.

The uncrewed Multipurpose Laboratory Module (MLM), named Nauka, the Russian word for "science," is scheduled to launch at 10:58 a.m. EDT (14:58z) Wednesday, July 21 on a three-stage Proton rocket from the Baikonur Cosmodrome in Kazakhstan. Live launch coverage will begin at 10:30 a.m.

Two days later, on Friday, July 23, the uncrewed ISS Progress 77 spacecraft will undock from the Russian segment of the station while attached to the Pirs docking compartment. With Pirs attached, Progress 77 is scheduled to undock at 9:17 a.m. (13:17z) Live coverage of undocking will begin at 8:45 a.m. A few hours later, Progress' engines will fire in a deorbit maneuver to send the cargo craft and Pirs into a destructive reentry in the Earth's atmosphere over the Pacific Ocean. Deorbit and reentry will not be covered on NASA TV.

After Nauka completes eight days in free-flight to allow Russian flight controllers to evaluate its systems, the 43-foot long, 23-ton module will automatically link up to the port on the Earth-facing side of the Russian segment station, vacated by the departure of Pirs. Docking is scheduled for 9:25 a.m. Thursday (13:25z), July 29, with live coverage beginning at 8:30 a.m.

Nauka will serve as a new science facility, docking port, and spacewalk airlock for future operations. Pirs has been part of the space station since September 2001, functioning as a docking port for Russian visiting spacecraft and an airlock for Russian spacewalks.

For more than 20 years, astronauts have continuously lived and worked on the space station, testing technologies, performing science, and developing the skills needed to explore farther from Earth. Through NASA's Artemis

program, the agency will send the first woman and the first person of color to the Moon’s surface, and eventually expand human exploration to Mars. Inspiring the next generation of explorers – the Artemis Generation – ensures America will continue to lead in space exploration and discovery.

[ANS thanks NASA for the above information]

ARISS NEWS

Amateurs and others around the world may listen in on contacts between amateurs operating in schools and allowing students to interact with astronauts and cosmonauts aboard the International Space Station. The downlink frequency on which to listen is 145.800 MHz worldwide.

YOTA 2021, West Chester, OH, telebridge via ZS6JON
The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is Akihiko Hoshide KE5DNI
Contact is go for: Wed 2021-07-14 15:03:16 UTC 58 degrees max elevation

TBD, Russia, direct via TBD
The ISS callsign is presently scheduled to be RSØISS
The scheduled astronaut is Pyotr Dubrov
Contact is a go for Wed 2021-07-14 20:10 UTC

SpaceKids Global, Winter Park, FL, multi-point telebridge via IK1SLD
The ISS callsign is presently scheduled to be TBD
The scheduled astronaut is Shane Kimbrough KE5HOD
Contact is go for: Wed 2021-07-21 17:47:21 UTC 51 degrees max elevation

Seinan Gakuin Junior Senior High School, Fukuoka, Japan, direct via 8N6SW
The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is Akihiko Hoshide KE5DNI
Contact is go for: Thu 2021-07-22 09:14:25 UTC 31 degrees max elevation

The latest information on the operation mode can be found at
https://www.ariss.org/current-status-of-iss-stations.html

The latest list of frequencies in use can be found at
https://www.ariss.org/contact-the-iss.html

[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors for the above information]

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Major Roves:

WA7AA:
July 13-16 DN28 holiday style
July 17 DN38 holiday style
July 18 DN47/48 daytime passes
July 21-23 DN54 holiday style
July 25-27 DN64 holiday style
July 30-31 DN63 holiday style

July 7, 10, 11, 18 will all be planned trips just for Sat passes FM and SSB. I will try to publish passes ahead of time on Twitter and QRZ. The remainder of the trip will be camping in remote areas with little to no internet or Twitter. I will get info out as I can, but I won't be able to setup skeds ahead of time. Lots of POTA activations on Sats and HF as well.

Please submit any additions or corrections to Ke0pbr (at) gmail.com

[ANS thanks Paul Overn, KE0PBR, AMSAT rover page manager, for the above information]

Hamfests, Conventions, Maker Faires, and Other Events

AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

No upcoming events currently scheduled.

Think a 90-minute lively, informative, and fun "How to Work the Easy Satellites" Zoom presentation would be appropriate for your convention or club? Always includes are overviews of the ARRL, AMSAT, and ARISS … and pre-presentation questions are solicited and welcome.

Contact AMSAT Ambassador Clint Bradford, K6LCS, at http://www.work-sat.com or by phone at 909-999-SATS (7287)

[ANS thanks Paul Overn, KE0PBR, AMSAT Events page manager, for the above information]

Satellite Shorts From All Over

+ NASA awarded a $935 million contract to Northrop Grumman to build and integrate the Habitation and Logistics Outpost (HALO) module for the lunar Gateway, based off their Cygnus cargo craft, targeting a launch on a Falcon Heavy in late 2024. This module will house astronauts and provide command, control and power, plus three docking ports and mounting hardware for Canadarm3 [and very likely, an amateur radio station!]. (ANS thanks The Orbital Index for the above information).

+ Duct tape is really important in space. Among other things it was used by the crew of Apollo 13 to build their improvised carbon monoxide scrubber (called "gray tape" in the transcript). Amazingly, up until 2021 astronauts on the ISS just stuck it to the wall and had to remember where it was; SpaceX Crew-1 finally brought a duct tape dispenser which can be operated with one hand, allowing an astronaut to stabilize themselves with the other. Even more amazingly, the dispenser was designed by high school students as part of NASA HUNCH, a program that farms out tactical engineering problems to high schoolers. (ANS thanks The Prepared blog and The Orbital Index for the above information)

+ China launched five small satellites designed to detect and monitor global radio transmissions Friday, July 9, 2021 on top of a Long March 6 rocket, joining five similar spacecraft deployed in orbit in 2019. The five satellites belong to a fleet owned by Ningxia Jingui Information Technology Co. Ltd., a company that provides radio spectrum monitoring services to commercial and Chinese government customers. (ANS thanks SpaceFlightNow for the above information)

+ A record number of satellites were launched into orbit in 2020, according to the Satellite Industry Association's (SIA) State of the Satellite Industry Report. By the end of 2020, there were 3,371 satellites orbiting Earth, an increase of 37% from 2019. The commercial satellite industry dominates the $371 billion global space economy, making up $271 billion, or nearly 73% of its revenue. (ANS thanks SatelliteToday for the above information)

+ NASA is announcing its 2021 Entrepreneurs Challenge to invite fresh ideas and new participants that will lead to new instruments and technologies with the potential to advance the agency's science mission goals. To encourage entrepreneurs to participate in the challenge, the Science Mission Directorate will award finalists as much as $90,000 through a two-stage process. Details at https://www.nasa-science-challenge.com (ANS thanks Southgate ARC for the above information)

+ The Atmosphere–Space Interactions Monitor, or ASIM, installed outside the European space laboratory Columbus module on the ISS, has detected a 'blue jet'–upward shooting lighting–that climbed to the interface between the stratosphere and the ionosphere. These have previously been associated with 10- to 30-microsecond pulses of intense radiation across the 3 to 300 MHz radio spectrum. More study is necessary to determine effects related to radio propagation. (ANS thanks The Orbital Index and ESA for the above information)

+ Virgin Galactic owner Richard Branson rocketed into space Sunday, an edge-of-the-seat sub-orbital test flight intended to demonstrate his company's air-launched spaceplane is ready for passengers who can afford the ultimate thrill ride. Whether the view and a couple of minutes of microgravity are worth the $250,000 (which purportedly 600+ people are signed up to pay) is entirely a matter of opinion. But if you sign up, and plan to take along your hand-held ham transceiver, please let us know!

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. President's Club donations may be made at https://tinyurl.com/ANS-PresClub or through the AMSAT Store.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact info [at] amsat.org for additional student membership information.

Join AMSAT today at https://launch.amsat.org/

73 and remember to help Keep Amateur Radio in Space,

This week's ANS Editor, Mark Johns, K0JM
k0jm at amsat dot org